

AMENDMENTS TO THE CLAIMS:

Please cancel claims 3, 4, 22, and 23, without prejudice and without disclaimer of their content, and add new claim 29. This listing of claims will replace all prior versions and listings of claims in the application:

Claims 1-4 (Canceled)

5. (Currently amended) A liquid crystal apparatus with leak current preventing function, comprising:

first and second transparent substrates opposite to each other;

first and second transparent imaging electrodes, each formed on an opposite inner surface of the first and second transparent substrates;

a sealing member between the first and second transparent substrates for providing a liquid crystal injecting area, for forming a gap, and for sealing the liquid crystal in the gap; and

a conductive light-cutting film on at least one of the first and second transparent substrates for cutting off unnecessary light at an image area and peripheral portion thereof;

wherein separation slits for dividing the light-cutting film into a plurality of portions are provided in a peripheral area outside of the image area, so as to surround said image area, said separation slits surrounding said image area, and in which the light-cutting film is superposed with the sealing member.

6. (Original) A liquid crystal apparatus with leak current preventing function as claimed in claim 5, wherein the width of the separation slit is three tenths (3/10) or less of the width of a wall of the sealing member.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

7. (Previously presented) A liquid crystal apparatus with leak current preventing function, comprising:

first and second transparent substrates provided opposite to each other;

first and second transparent imaging electrodes, each formed on an opposite inner surface of the first and second transparent substrates;

a sealing member between the first and second transparent substrates for providing a liquid crystal injecting area, for forming a gap, and for sealing the liquid crystal in the gap; and

a conductive light-cutting film on at least one of the first and second transparent substrates for cutting off unnecessary light at an image area and peripheral portion thereof;

wherein separation slits for dividing the light-cutting film and the transparent electrodes for image into a plurality of portions are provided in a peripheral area outside of the image area, the light-cutting film being superposed by the first and second transparent imaging electrodes and with the sealing member in the peripheral area.

8. (Original) A liquid crystal apparatus with leak current preventing function as claimed in claim 7, wherein the width of the separation slit is three tenths (3/10) or less of the width of a wall of the sealing member.

9. (Original) A liquid crystal apparatus with leak current preventing function as claimed in claim 7, wherein, a separation slit is provided to the light-cutting film for further dividing a part of the light-cutting film separated along the first and second transparent electrodes.

10. (Previously presented) A liquid crystal apparatus with leak current preventing function, comprising:

first and second transparent substrates provided opposite to each other;

first and second transparent imaging electrodes, each formed on an opposite inner surface of the first and second transparent substrates;

a sealing member between the first and second transparent substrates for providing a liquid crystal injecting area, for forming a gap, and for sealing the liquid crystal in the gap; and

a conductive light-cutting film associated with at least one of the first and second transparent substrates for cutting off unnecessary light at an image area having a plurality of transparent electrodes;

wherein an insulating film is layered with the light-cutting film and at least one of the first and second transparent electrodes is further provided on a surface of the insulating film, the light-cutting film has a separation slit for dividing the light-cutting film into a plurality of portions at a position slightly inward from the sealing member, and a further separation slit is provided in the light-cutting film for further dividing a part of the divided light-cutting film.

11. (Original) A liquid crystal apparatus with leak current preventing function as claimed in claim 10, wherein the width of the separation slit is three tenths (3/10) or less of the width of a wall of the sealing member.

12. (Previously presented) A liquid crystal apparatus with leak current preventing function, comprising:

first and second transparent substrates provided opposite to each other;

first and second imaging electrodes, each formed on an opposite inner surface of the first and second transparent substrates;

a sealing member between the first and second transparent substrates for providing a liquid crystal injecting area, for forming a gap, and for sealing the liquid crystal in the gap; and

a plurality of conductive particles included dispersedly within the sealing member;

a drive lead electrode formed at a position covered by the sealing member;

a dummy electrode formed opposite to at least a part of the drive lead electrode, at the position in which the first and second transparent substrates are covered by the sealing member; and

a conductive light-cutting film on at least one of the first and second transparent substrates for cutting off unnecessary light at an image area and peripheral portion thereof;

wherein the dummy electrode is divided by a plurality of slits, and further, a separation slit for dividing the light-cutting film into a plurality of portions is provided in a peripheral area outside of the image area and in which the light-cutting film is superposed with the sealing member.

13. (Previously presented) A liquid crystal apparatus with leak current preventing function as claimed in claim 12, wherein the width of the separation slit is three tenths (3/10) or less of the width of a wall of the sealing member.

14. (Previously presented) A liquid crystal apparatus with leak current preventing function, comprising:

first and second transparent substrates provided opposite to each other;

first and second imaging electrodes, each formed on an opposite inner surface of the first and second transparent substrates;

a sealing member between the first and second transparent substrates for providing a liquid crystal injecting area, for forming a gap, and for sealing the liquid crystal in the gap;

a plurality of conductive particles included dispersedly within the sealing member;

a drive electrode formed at the position covered by the sealing member of the first and second imaging electrodes;

a dummy electrode formed opposite to at least a part of the drive electrode, at the position in which the first and second transparent substrates are covered by the sealing member; and

a conductive light-cutting film provided to at least one of the first and second transparent substrates for cutting off unnecessary light at an image area having a plurality of transparent electrodes and peripheral portion of the image area;

wherein the dummy electrode is divided by a plurality of slits, the light-cutting film and the first and second imaging electrodes are superposed, and a separation slit is provided for dividing the superposed light-cutting film and the imaging electrodes into a plurality of portions.

15. (Original) A liquid crystal apparatus with leak current preventing function as claimed in claim 14, wherein the width of the separation slit is three tenths ($3/10$) or less of the width of a wall of the sealing member.

16. (Previously presented) A liquid crystal apparatus with leak current preventing function, comprising:

first and second transparent substrates provided opposite to each other;

first and second imaging electrodes, each formed on an opposite inner surface of the first and second transparent substrates;

a sealing member between the first and second transparent substrates for providing a liquid crystal injecting area, for forming a gap, and for sealing the liquid crystal in the gap; and

a plurality of conductive particles included dispersedly within the sealing member;

a drive electrode formed at the position covered by the sealing member of the first and second imaging electrodes;

a dummy electrode formed opposite to the drive electrode, at the position in which the first and second transparent substrates are covered by the sealing member; and

a conductive light-cutting film on at least one of the first and second transparent substrates for cutting off unnecessary light at the plurality of imaging electrodes, an image area, and peripheral portion of the image area;

wherein the dummy electrode is divided by a plurality of slits, the light-cutting film and the plurality of imaging electrodes are superposed with an insulating film, the plurality of imaging electrodes are insulated from each other, the light-cutting film has a separation slit for dividing the light-cutting film into a plurality of portions at a position inward of the sealing member, and a further separation slit is provided in the light-cutting film for dividing a part of the divided light-cutting film.

17. (Original) A liquid crystal apparatus with leak current preventing function as claimed in claim 16, wherein the width of the separation slit is three tenth (3/10) or less of the width of a wall of the sealing member.

18. (Original) A liquid crystal apparatus with leak current preventing function as claimed in claim 12, 14 or 16, wherein a width of each slit for dividing the dummy electrode is set to a value larger than a diameter of each of the conductive particles.

19. (Original) A liquid crystal apparatus with leak current preventing function as claimed in claim 12, 14 or 16, wherein the dummy electrode is provided in parallel to and along a side of the sealing member.

24. (Previously presented) A liquid crystal apparatus with a leak current preventing function as claimed in claim 10, wherein the one of the first and second transparent electrodes are further provided on a top surface of the insulating film

25. (Previously presented) A liquid crystal apparatus with a leak current preventing function as claimed in claim 10, wherein the one of the first and second transparent electrodes are further provided on a bottom surface of the insulating film

26. (Previously presented) A liquid crystal apparatus comprising:
first and second transparent substrates provided opposite to each other via a liquid crystal;

a plurality of driving electrodes for driving the liquid crystal formed on at least one of opposite inner surfaces of said first and second transparent substrates to apply a voltage to said liquid crystal;

a dummy electrode formed opposite to one of said driving electrodes on the other of said opposite inner surfaces at a position covered by a sealing member, said dummy electrode applying no voltage to said liquid crystal;

wherein said one of said driving electrodes and said dummy electrode are opposed to each other through an insulating film so as to electrically insulate said one of said driving electrodes from said dummy electrode, and said dummy electrode comprises a plurality of island portions electrically insulated from each other and at least two of said plurality of island portions are provided oppositely to said one of said driving electrodes.

27. (Previously presented) A liquid crystal apparatus according to claim 26, wherein said dummy electrode has an elongated shape and said island portions of said dummy electrode are positioned along said elongated shape in a direction of shape elongation.

28. (Previously presented) A liquid crystal apparatus according to claim 6, wherein said island portions of said dummy electrode are defined by a slit forming a space and made by removing a part of electrode material of said dummy electrode.

29. (New) A liquid crystal apparatus with leak current preventing function, comprising:

first and second transparent substrates opposite to each other, said first and second transparent substrates being formed of an insulating material;

first and second transparent imaging electrodes, each formed on an opposite inner surface of the first and second transparent substrates;

a sealing member between the first and second transparent substrates for providing a liquid crystal injecting area, for forming a gap, and for sealing the liquid crystal in the gap; and

a conductive light-cutting film, formed on at least one inner surface of said first and second transparent substrates or on a common insulating member, for cutting off unnecessary light at an image area and peripheral portion thereof;

wherein separation slits for dividing the light-cutting film into a plurality of portions are provided in a peripheral area outside of the image area, said separation slits surrounding said image area, and in which the light cutting film is superposed with the sealing member.